Total No. of printed pages = 4

Et-502/Microprocessor/5th Sem/2017/M

MICROPROCESSOR

Full Marks – 70

Pass Marks – 28

Time – Three hours

The figures in the margin indicate full marks for the questions.

Answer Question No.1 and any *four* Questions from the rest.

1. (a) Fill in the blanks : 1×10=10

(i) Intel 8085 is a ___ bit microprocessor.

(ii) Intel 8085 has ___ pins.

(iii) Intel 8085 can access ___ memory.

(iv) Intel 8085 address bus is ___ bit wide.

(v) Intel 8085 has ___ interrupt lines.

(vi) Intel 8085 operates on ___ MHz frequency.

(vii)Intel 8255 has ___ number of I/O ports.

[Turn over

(viii) Opcode fetch cycle of Intel 8085 has ___ T state.

(ix) 74LS373 is used to multiplexed address bus of Intel 8085 with the ___ bus.

(x) LXI H, F000H is a ___ byte instruction of Intel 8085.

(b) Write the meaning of the following opcode of Intel 8085. 1×4=4

(i) DAA

(ii) CMC

(iii) SIM

(iv) EI.

2. (a) Draw and describe the internal architecture of Intel 8085. 8

(b) Classify instruction set of Intel 8085 according to their functions. 6

3. (a) Draw and explain the timing diagram of opcode fetch cycle of Intel 8085. 8

(b) Describe all the jump instructions of Intel 8085. 6

4. (a) With circuit diagram, explain how the address bus of Intel 8085 is multiplexed with the data bus by using 74LS373. 8

(b) Draw the circuit diagram to generate the control signals for Intel 8085 using $IO/\overline{M}$, $\overline{WR}$ and $\overline{RD}$ signals. 6

5. (a) Draw block diagram of Intel 8255 and explain its various components. 8

(b) Construct the control word for the following :

(i) Port A is set as input in Mode 0

(ii) Port B is set as output in Mode 0

(iii) Port C_{upper} is set as input

(iv) Port C_{lower} is set as output. 6

6. (a) What is DMA ? What are the different methods of DMA operation ? 8

(b) Draw the internal block diagram of Programmable Interrupt Controller Intel 8259 and describe it. 6

7. (a) Write assembly level program for Intel 8085 to add numbers already stored in memory locations starting from F000H. Store the result in the 101th location. 8

(b) Write assembly level program for Intel 8085 to find 2's complement of a number already stored in the accumulator. Store the result in B register. 6

8. (a) Write short notes on any *two* : 2×7=14

(i) Flags of Intel 8085

(ii) Memory mapping

(iii) Rotate instructions of Intel 8085.